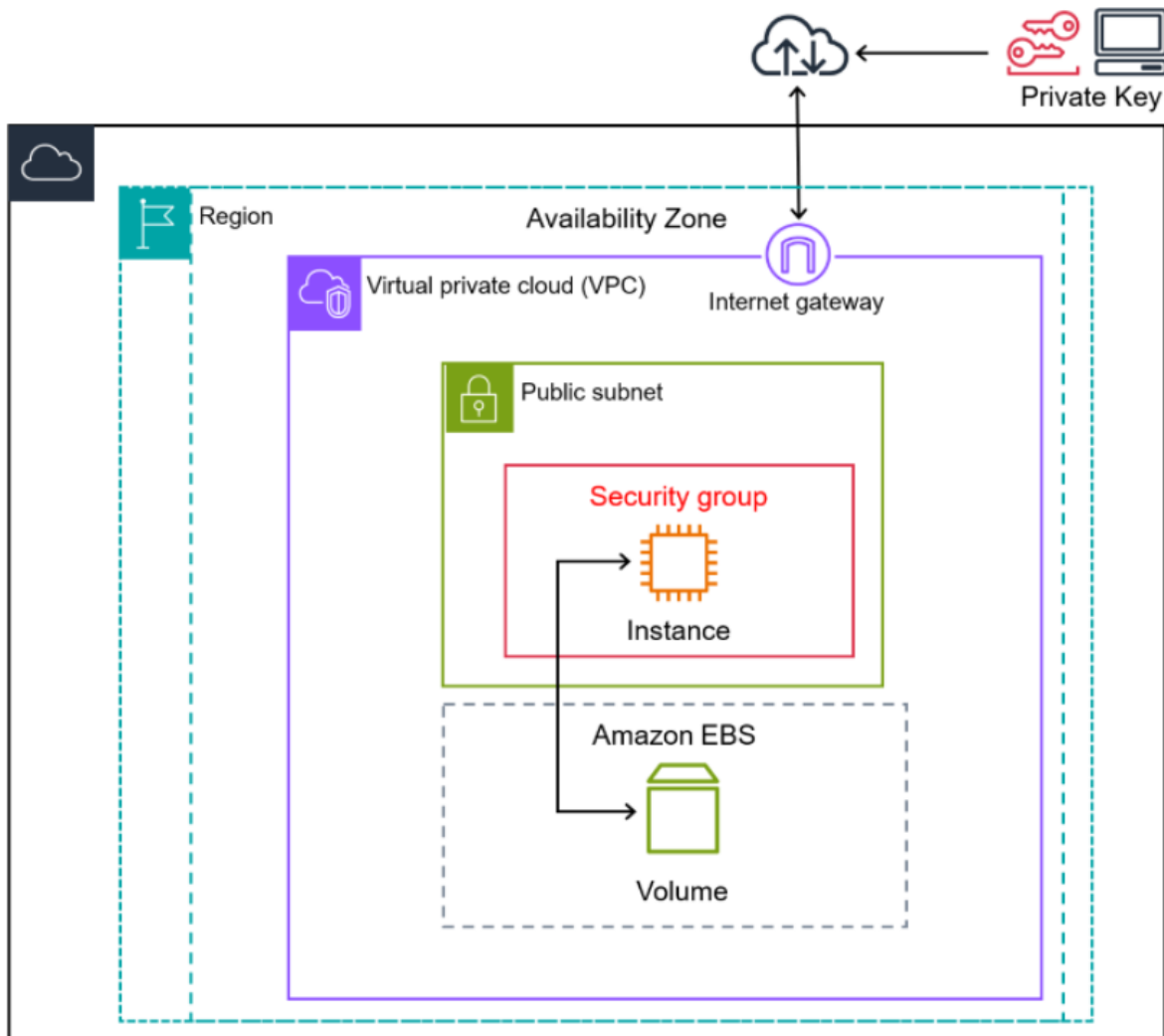1. Create a virtual machine with given architecture.

2. Host a website in the virtual machine created above. The website must render the answer to the following questions.
   a. What is Cloud Computing.
   b. What are different global infrastructures of AWS.
   c. Explain cloud service model with relevant examples.
   d. What is AWS shared responsibility model? Explain.
   e. Differentiate cloud based on cloud deployment model.
   f. What are the advantages of cloud computing.
   g. Explain security group, key pair, user-data, AMI, IAM.
   h. Differentiate between EBS and Instance store
   i. Give examples of regional, global services.
   j. On what basis is the region selected?

3. Host a static website using object storage. It must be publicly assessable and should render answer to following question.
    a. Explain the use case of S3.
    b. Explain features of S3.
    c. What are different storage classes of S3.
    d. Explain operating systems.
    e. What is linux and features of linux.

4. A company unlimited has bought IP address of 172.16.0.0/16. This IP need to be allocated for 5 different lab with hosts 23, 1023, 30, 712, 128 respectively. Now calculate N/W ID, Broadcast Id, first host and last host of each lab

5. Use the virtual machine created in question no 1.

    Linux Command Line:
    1. How do you display the current working directory in the Linux command line?
    2. command can you use to list all files and directories in a directory, including hidden ones?
    3. How do you rename a file named "oldfile.txt" to "newfile.txt" using the command line?
    4. What command allows you to search for a specific string within a file or a set of files?
    5.How do you use standard stream.

    Users and Groups:
    1. How do you create a new user in Linux with the username "newuser"?
    2. What command allows you to change the password for a user in Linux?
    3. How do you add a user to a specific group in Linux?
    4. What command shows detailed information about a specific user, including their group memberships?
    5.Add multiple user to one group and add one user to all group.

    Editing Files:
    1. How do you open a file named "myfile.txt" for editing using the Nano text editor?
    2. What command allows you to search for and replace a specific string in a file?
    3. How do you append text to the end of a file named "mylog.txt" using the Echo command?
    4. What command displays the contents of a file named "mylog.txt" on the

command line?

Working with File Systems:

1. How do you create a new directory named "mydir" in the current working directory?
2. What command allows you to copy a file named "file1.txt" to a directory named "backup"?
3. How do you move a file named "mydoc.doc" from the current directory to the "/home/user/documents" directory?
4. Rename the file name.

File Permissions:

1. How do you change the permission of a file to read, write, and execute for the owner, read-only for the group, and no permissions for others?
2. What command displays the permissions of a file or directory in symbolic notation?
3. How do you change the owner of a file to a specific user in Linux?
4. What command sets the group ownership of a file to a specific group in Linux?
5. How do you give execute permissions to all users for a file named "script.sh"?

Linux Commands

1. How can you replace all occurrences of a specific word in a file with another word?
2. When would you use the uniq command in a Unix-like environment? Provide an example scenario.
3. Suppose you have a CSV file containing data in unsorted order. How would you alphabetically sort the content based on a specific column?
4. Describe the purposes and functionalities of cut, tee, pipe (|), and noclobber in Unix-like systems.
5. Explain the differences in functionality between the grep and find commands in Unix-like systems.
6. Can you explain the role and usage of redirectors, tar, zip, gzip, hash, hardlinks, softlinks, and diff in Unix-like environments?
7. What are metacharacters in Unix-like systems, and how are they used in shell commands? Provide examples of different metacharacters and their functions.
8. Create given hierarchy.

```
/home/ec2-user
└── CompanyA
    ├── Employees
    │   └── Schedule.csv
    ├── Finance
    │   └── Salary.csv
    ├── HR
    │   └── Assessments.csv
    │       Managers.csv
    ├── HR
    ├── Management
    │   └── Promotions.csv
    │       Sections.csv
    └── HR
```